CLAIMS
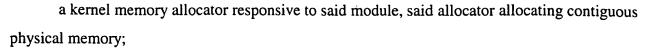
We claim:

1. A method for performing memory diagnostics in a computer system, comprising:

    (a) dynamically loading a module to a kernel of an operating system running in said computer system;

    (b) allocating contiguous physical memory by said kernel;

    (c) accessing said contiguous physical memory from a user process address space of a user level program; and

    (d) performing memory diagnostics on said contiguous physical memory by said user level program.

2. The method of claim 1, wherein said accessing said contiguous physical memory comprises mapping said contiguous physical memory from a kernel address space to said user process address space.

3. The method of claim 1, wherein said user level program controls physical memory displacements between accesses.

4. The method of claim 1, further comprising the step of deallocating the memory.

5. The method of claim 4, further comprising the step of dynamically unloading the module.

6. The method of claim 1, wherein said contiguous physical memory is also contiguous virtually.

7. A computer system, comprising:

    a dynamically loadable kernel module of an operating system running in said computer system;

a kernel memory allocator responsive to said module, said allocator allocating contiguous physical memory;

a user process address space capable of accessing said contiguous physical memory; and

a user level memory diagnostic program capable of running in said user process address

5   space.

7.   The system of claim 6, wherein said contiguous physical memory is mapped from a kernel address space to said user process address space.

8.   The system of claim 6, wherein said user level memory diagnostic program controls physical memory displacements between accesses.

10   9.   The system of claim 6, wherein said contiguous physical memory is also contiguous virtually.

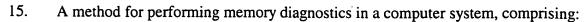11.   An article comprising:

a computer-readable signal-bearing medium;

a dynamically loadable kernel module of an operating system, said module allocating

15   contiguous physical memory; and

a user level memory diagnostic program capable of running in a user process address space for accessing said contiguous physical memory.

12.   The article of claim 11, wherein the medium is selected from the group consisting of: a recordable data storage medium, and a modulated carrier signal.

20   13.   The article of claim 11, wherein said module maps said contiguous physical memory from a kernel address space to said user process address space.

14.   The article of claim 11, wherein said user level memory diagnostic program controls physical memory displacements between accesses.

Patent Application Specification   8

15. A method for performing memory diagnostics in a computer system, comprising:

    (a) dynamically loading a module to a kernel of an operating system running in said computer system;

    (b) allocating contiguous physical memory by said kernel;

    (c) mapping said contiguous physical memory from a kernel address space to a user process address space of a user level program; and

    (d) performing memory diagnostics on said contiguous physical memory by said user level program.

16. The method of claim 15, wherein said user level program controls physical memory displacements between accesses.

17. The method of claim 15, further comprising the step of deallocating the memory.

18. The method of claim 17, further comprising the step of dynamically unloading the module.